EXHIBIT "C"

1 (Pages 1-4)

1	TN THE UNITED STAT	1 TES DISTRICT COURT	1		TNDEY	3
	FOR THE SOUTHERN D	DISTRICT OF TEXAS			INDEX	
2	HOUSTON I	DIVISION	2			PAGE
3	VIRGINIA ELIZONDO,		3	Appearances		2
4	Plaintiff,	,)) Civil Action No.	4	Stipulations		5
5	v	4:21-cv-01997	5			
6	SPRING BRANCH INDEPENDENT))	6	WITNESS: ROB	ERT M. STEIN, Ph.D.	
7	SCHOOL DISTRICT, CHRIS GONZALEZ, PAM GOODSON,)	7			
	KAREN PECK, JOSEF D. KLAM, MINDA CAESAR, CHRIS EARNEST,			Examination b	y Mr. Crawford	6
	J. CARTER BREED, in their official capacity as members)	8			
	of the Board of Trustees of		9	Signature and	l Changes	85
	Spring Branch ISD))		Reporter's Ce	•	87
11	Defendants.)	11			
12	**************************************		12			
13			13			
14	ROBERT M. ST					
15	FEBRUARY	9, 2022	14			
16	(REPORTED	REMOTELY)	15			
17	ORAL DEPOSITION OF F	ROBERT M. STEIN, Ph.D.,	16			
	produced as a witness at the		17			
			18			
	and duly sworn, was taken in	•	19			
20	numbered cause on February 9	, 2022, from 9:27 a.m. to	20			
21	11:31 a.m., before Dana Taylo	or, CSR in and for the	21			
22	State of Texas, reported remo	otely via Zoom by machine	22			
23	shorthand, pursuant to the Fe	ederal Rules of Civil	23			
24	Procedure and the provisions	stated on the record or	24			
25	attached hereto.		25			
		2				4
			1		EVIITETTS	4
1 2	АРІ	P E A R A N C E S (Via Zoom)		NUMBER	EXHIBITS DESCRIPTION	PAGE
3		(V14 200m)	3	Exhibit 1	Expert Report of	7
4	FOR THE PLAINTIFF:		4		Robert M. Stein, Ph.D. January 20, 2022	
5	MR. BARRY ABRAMS BLANK ROME		5	Exhibit 2	Email Dated February 7, 2022	23
6	717 Texas Avenue		6		with Attachments	
7	Suite 1400 Houston, Texas 7	7002-2727	0	Exhibit 3	Color Map	50
'	713-228-6606	7002-2727	7		SBISD000001	
8	713-228-6630 Fax		8	Exhibit 4	Demonstrative Spring Branch ISD Single-Member District	51
9	barry.abrams@blan	krome.com	9		-	
	- and -		10	Exhibit 5	"Partisanship, Structure, and Representation: The Puzzle of	63
10	MD MADTTN COLANDA	0	10		African American Education	
11	MR. MARTIN GOLANDO THE LAW OFFICE OF 405 North Saint Ma	MARTIN GOLANDO, PLLC	11		Politics" by Kenneth J. Meier and Amanda Rutherford	
12	Suite 700	ary 3 Street	12	Evhibi+ 6	"The Impact of At Large	69
	San Antonio, Texas	s 78205-2334	13	Exhibit 6	"The Impact of At-Large Elections on the Representation	69
112	210-892-8543				of Blacks and Hispanics" by	
13					Susan Welch	
14	FOR THE DEFENDANTS:		14 15	Exhihit 7	"At-Large Elections and	75
14	MR. CHARLES J. CRA			Exhibit 7	"At-Large Elections and Minority Representation in	75
14 15	MR. CHARLES J. CR ABERNATHY, ROEDER 1700 Redbud Boule	, BOYD & HULLETT, P.C.	15 16	Exhibit 7		
14 15 16 17	MR. CHARLES J. CRA ABERNATHY, ROEDER 1700 Redbud Bouler Suite 300	, BOYD & HULLETT, P.C. vard	15		Minority Representation in Local Government" by Carolyn Abott and Asya Magazinnik	
14 15 16 17 18	MR. CHARLES J. CR. ABERNATHY, ROEDER 1700 Redbud Bouler Suite 300 MCKinney, Texas 214-544-4000	, BOYD & HULLETT, P.C. vard	15 16	Exhibit 7 Exhibit 8	Minority Representation in Local Government" by	
14 15 16 17	MR. CHARLES J. CR/ ABERNATHY, ROEDER 1700 Redbud Bouler Suite 300 MCKinney, Texas 214-544-4000 214-544-4040 Fax	, BOYD & HULLETT, P.C. vard 75069	15 16 17 18		Minority Representation in Local Government" by Carolyn Abott and Asya Magazinnik Press Release "Republican Party	
14 15 16 17 18	MR. CHARLES J. CR. ABERNATHY, ROEDER 1700 Redbud Bouler Suite 300 MCKinney, Texas 214-544-4000	, BOYD & HULLETT, P.C. vard 75069	15 16 17 18 19		Minority Representation in Local Government" by Carolyn Abott and Asya Magazinnik Press Release "Republican Party of Texas Doubles Down on Local	
14 15 16 17 18 19 20 21	MR. CHARLES J. CR/ ABERNATHY, ROEDER 1700 Redbud Bouler Suite 300 MCKinney, Texas 214-544-4000 214-544-4040 Fax	, BOYD & HULLETT, P.C. vard 75069	15 16 17 18		Minority Representation in Local Government" by Carolyn Abott and Asya Magazinnik Press Release "Republican Party of Texas Doubles Down on Local	
14 15 16 17 18 19 20 21 22	MR. CHARLES J. CR/ ABERNATHY, ROEDER 1700 Redbud Bouler Suite 300 MCKinney, Texas 214-544-4000 214-544-4040 Fax	, BOYD & HULLETT, P.C. vard 75069	15 16 17 18 19 20 21 22		Minority Representation in Local Government" by Carolyn Abott and Asya Magazinnik Press Release "Republican Party of Texas Doubles Down on Local	
14 15 16 17 18 19 20 21	MR. CHARLES J. CR/ ABERNATHY, ROEDER 1700 Redbud Bouler Suite 300 MCKinney, Texas 214-544-4000 214-544-4040 Fax	, BOYD & HULLETT, P.C. vard 75069	15 16 17 18 19 20 21		Minority Representation in Local Government" by Carolyn Abott and Asya Magazinnik Press Release "Republican Party of Texas Doubles Down on Local	

2 (Pages 5-8)

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PROCEEDINGS
                                                              1 summer, early spring. The early spring, late --
                FEBRUARY 9, 2022 - 9:27 A.M.
                                                              2 early -- late spring, early summer. Excuse me.
                                                                     Q. of 2021?
                     (Reported Remotely)
                                                                     A. 2021.
                THE REPORTER: Today is February 9, 2022.
                                                                     Q. And what is your rate of compensation?
6 The time is approximately 9:27 a.m.
                                                                     A. $250 per hour.
                My name is Dana Taylor. My Texas CSR
                                                                     Q. I have -- I have sent Barry and Dana copies of
8 Number is 6048. I will be administering the oath
                                                              8 the exhibits I'd like to use with you in your deposition
9 and reporting the deposition stenographically from
                                                              9 today. Do you have access to those?
10 Mansfield, Texas.
                                                                     A. Yes. I do.
                The witness is located in Houston. Texas.
                                                                     Q. Perfect. The first exhibit I would like to
                Will Counsel please state your appearances
                                                              12 talk to you about and mark is your report.
13 and any agreements for the record, and then I will swear
                                                                              MR. CRAWFORD: And so, Dana, if you would
14 in the witness.
                                                             14 mark that as Exhibit 1.
                MR. CRAWFORD: Sure. I'll start.
                                                                              Barry, do you want to start these new,
16
                Charles Crawford for the Defendants.
                                                             16 or do we want to start after the last number from your
17
                And we'll take it pursuant to the federal
                                                             17 depositions? Do you have a preference?
18 rules.
                                                                              MR. ABRAMS: I'm really indifferent.
                MR. ABRAMS: Barry Abrams for the
                                                             19 I don't honestly recall where we left off. So I think
20 Plaintiff.
                                                             20 there will be few enough exhibits in this case that
                                                              21 maybe we can do it per witness or per group of
                I agree that we're taking it per the rules.
22
                MR. GOLANDO: Martin Golando for the
                                                             22 witnesses.
                                                             23
23 Plaintiffs.
                                                                              MR. CRAWFORD: Perfect. Then we'll just
                                                             24 make this Stein Deposition Exhibit 1.
                And I agree with Barry.
                      (Witness sworn.)
                                                                                 (Exhibit 1 identified.)
                                                           6
                   ROBERT M. STEIN, Ph.D.,
                                                                     Q. Dr. Stein, is Exhibit 1 a copy of your report
2 having been first duly sworn, testified as follows:
                                                              2 in this case?
                         EXAMINATION
                                                                     A. Yes, it is.
4 BY MR. CRAWFORD:
                                                                     Q. Is your resume attached to the report?
       Q. Good morning.
                                                                     A. Yes, it is.
       A. Good morning.
                                                                     Q. And does your resume adequately describe and
                                                              7 list your qualifications to opine as an expert in this
       Q. Can you hear me okay?
       Q. Good. If any time it's -- because we're doing
                                                                     A. Yes, it does.
10 this by Zoom, I'm garbled or unclear, please let me
                                                                     Q. Okay. So rather than go through that, we'll
11 know, and I'll do the same for you.
                                                              11 just rest on the resume, if that's okay?
12
                                                                     A. (Nods head.)
13
                                                             13
       Q. Okay. Will you please state your name, please?
                                                                     Q. What is the scope of your employment as an
                                                              14 expert in the lawsuit?
       A. Robert Mark Stein.
                                                                     A. And -- and I'll be looking to my -- to your
       Q. Dr. Stein, what is your occupation?
       A. I am a professor of political science at
                                                             16 left because I have another screen that has my -- has
17 Rice University.
                                                              17 the exhibit up. So I'm not trying to be rude or just
       Q. How long have you been a professor at Rice?
                                                              18 wanted you to think I'm -- but on Page 2 --
19
                                                             19
                                                                     Q. I absolutely understand.
       Q. And have you been hired by the Plaintiff in
                                                                     A. -- and 3, I stipulate, I guess, I have been
21 this case as an expert?
                                                             21 retained by counsel to provide expert testimony, and
                                                             22 there are, I believe, five, six, seven -- eight bullets.
       A. Yes. I have.
       Q. When were you hired?
                                                                              I can go through them, but they're
       A. That's a very good question. It was last year.
                                                             24 basically the -- the issues of whether Spring Branch ISD
25 I think Mr. Abrams and Golando approached me late
                                                             25 school board elections are racially polarized.
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3 (Pages 9-12)

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Whether Latinos or Hispanics are
                                                                     Q. What have you done in order to render your
2 politically cohesive in the Spring Branch ISD school
                                                              2 oninion in this case?
3 board trustee elections and vote as a block for
                                                                     A. A number of things. Of course, I -- to deal
4 Latino-preferred candidates -- or candidate.
                                                              4 with the last four points, in reverse order, I reread
                Whether Hispanic or Latino voting-age
                                                              5 the literature on -- the scholarly literature on these
6 population in the Spring Branch ISD is sufficiently
                                                              6 issues that I -- the last four bullets, I think on
7 large and geographically compact to constitute a
                                                              7 Page -- help me here -- 3.
8 majority of voting population in at least one, or more,
                                                                              I requested -- to deal with these issues
9 single-member districts under what I offer later on as
                                                              9 on the first three bullets -- actually, the first four
10 an illustrative district plan.
                                                              10 bullets; I apologize -- I requested materials and
11
                And then the last four points deal with
                                                             11 information from the Spring Branch ISD. I acquired
12 whether White Non-Hispanics vote sufficiently as a block
                                                              12 information from the Harris County election
13 to enable them, in the absence of special circumstances,
                                                              13 administrator's office.
14 like a special -- like a single-member district, to
                                                                              And, where necessary, I read newspaper
15 defeat a minority candidate who is a preferred choice of
                                                             15 accounts of the candidates running for office in the
16 the minority voter.
                                                             16 Spring Branch ISD trustee -- school board trustee
17
                                                             17 elections.
                Whether single-member district elections
18 or at-large elections enhance the proportional
                                                             18
                                                                     Q. Did you --
19 representation of minority-preferred candidates on
                                                             19
                                                                     A. Oh, I'm sorry.
                                                             20
20 elected legislative bodies, like a school board.
                                                                     Q. Oh, go ahead.
                                                             21
                                                                     A. I also acquired data from the U.S. Bureau of
                Whether taxing and spending practices
                                                             22 Census for demographic information.
22 differ significantly between governments with
                                                             23
23 single-member district representation and at-large
                                                                     Q. Did you keep copies of the newspaper accounts
24 elections or representation.
                                                             24 that you just were referring to that you had reviewed?
                                                             25
                And then, finally, whether legislative
                                                                     A. I think one or two, yes.
                                                                                                                       12
                                                         10
1 bodies are more responsive to the preferences of
                                                                     Q. Would you be able to locate those and provide
2 minority and nonminority voters in at-large or
                                                              2 those to Barry to be able to provide to me?
3 single-member district forms of representation.
                                                                     A. Yes, I -- I am certain I can.
       Q. Are the bullet points you read off more
                                                                     Q. Okay. I'd ask if you could do that, please?
5 commonly known as the Gingles factors?
                                                                     A. Can I just write myself a note?
       A. Yes. That was how I understood these issues,
                                                              6
                                                                     Q. Sure.
                                                                     A. I'm forgetful.
7 from reading Gingles and being advised.
                                                              7
       Q. And would the scope of your opinion and
                                                                              Got it.
                                                              9
9 engagement be to opine on Gingles Factors 1, 2, and 3?
                                                                     Q. Okay. You were telling me what you had done in
       A. Yes, they would.
                                                             10 order to render your opinion, and I interrupted you with
11
       Q. And are you opining on the Senate Factors also?
                                                              11 the newspaper request. Any other tasks that you've
12
       A. I'm -- I'm sorry. I couldn't hear that last
                                                              12 done, other than what you've just told me, in order to
13 word.
                                                             13 render your opinion?
       Q. The Senate Factors. Are you opining on the
                                                             14
                                                                     A. No, I don't -- no.
15 Senate Factors or the "totality of the circumstances"
                                                             15
                                                                     Q. Who did you talk to in preparation to render
                                                             16 your opinion?
16 factors?
17
       A. Oh, okay. I didn't know what "Senate" meant.
                                                                     A. Well, of course Mr. Abrams and Mr. Golando, and
                I -- I am opining on what I said here.
                                                              18 that's it. I -- I didn't talk to anybody else. As I
19 If -- if that constitutes a -- I think you called it the
                                                             19 said, I -- I read a good deal. And that is -- those are
20 totality of circumstances, I'm inclined to agree with
                                                             20 the only people I talked to about this case.
21 that, yes.
                                                                     Q. Is there anything else that you need or want or
                                                             22 plan to do to render your opinion in this case?
       Q. Okay. Are there any other subjects that you
                                                                     A. At this time, no.
23 are opining on that are not listed in the bullet points
                                                             23
24 in your report?
                                                             24
                                                                     Q. Are you fully prepared to render your opinion
       A. No.
                                                             25 today?
```

4 (Pages 13-16)

A. I -- I did not review that literature. I know

1 A. That's a good question. A. Yes. As I write in the report -- although, I --Q. What is your opinion? 2 A. Well, as I said in my report, I think there is 3 I should be careful here. I know the arguments in 4 favor of at-large forms of representation. So I'll 4 statistically significant evidence of racial polarized 5 voting in the Spring Branch ISD -- Independent School 5 distinguish my answer by saying there have been 6 District trustee elections from 2015 to 2021. 6 arguments -- or hypotheses, I should say, about the 7 advantages of single-member district representation Q. And, Dr. Stein, are you reading from the 8 "Summary of Opinions" portion of your report on Page 3? 8 over at-large. A. Yes. Those advantages seem to flow from the 10 10 idea that single-member district representation has Q. Okay. 11 disadvantages that are overcome by at-large. Those A. I think that non-White (sic) Hispanics vote 12 disadvantages include excessive spending above demand. 12 sufficiently as a block to enable them, in the absence 13 of a single-member district form of representation, to 13 Sometimes we call this a pork barrel. So single-member district representation 14 defeat minority voters, which would be the preferred 15 candidates of choice for those Hispanic voters. 15 leads single-member district representatives to increase 16 spending for their district at the expense of the I also believe the geographic concentration 17 of Hispanics in the Spring Branch ISD district is 17 benefits to the whole district, a sort of 18 sufficient to constitute a majority of the voting-age 18 particularization, and a greater concern for the --19 population in at least one single-member district under 19 not for the many, but for the some. 20 what I offered as an illustrative seven-district plan. Second, at-large forms of representation 21 Although, there may be more. I have not investigated 21 are thought to be able to represent what is known as 22 that. I only looked for the one. 22 the collective interest, the greater good of the 23 23 district, over the -- the good of a particular segment Regarding the literature and research, 24 scholarly literature, I find strong evidence that 24 or geography. 25 single-member district forms of representation do -- do. The literatures I offer here -- and I'm on 14 16 1 in fact, enhance proportional representation of minority 1 Page 3 -- do not seem to conclusively -- there are mixed 2 candidates on legislative bodies. 2 results, and there's even results that would support. Single-member district representation 3 But to use the phrase the totality of the research and 4 increases the likelihood that minority candidates will 4 the -- and the best research and the most recent does 5 contest -- that means run for -- positions on 5 not seem to support those arguments in favor of at-large 6 legislative bodies. 6 over single-member district representation. And single-member district representation Q. And I note that you were very careful, at 8 will produce policies, decisions of these legislative 8 the beginning of your answer, to say that these were 9 bodies, that are more responsive to minority voters and 9 arguments in favor of at-large, not necessarily your 10 opinion about that. 10 their policy preferences. THE WITNESS: And if I'm going too fast, So let me ask you. Do you agree or 12 Ms. Taylor, please just slow me down. I am working 12 disagree with the arguments that you've laid out for me? 13 extremely hard to not deliver a fast answer. A. It's my conclusion that the literature and A. Oh, and I'm sorry. I apologize. The 14 my own findings here -- but particularly the literature 15 concluding recommendation is that the Spring Branch ISD 15 that I reviewed -- would not support the arguments 16 should adopt single-member district plans for the 16 or hypotheses that suggested at-large forms of 17 election of its seven district trustees. 17 representation are superior, on those points I made, Q. And that is a summary of your opinions in the 18 to single-member district representation. 19 case. Do you have any other opinions, other than the 19 Q. What about the middle ground of those two 20 ones that you just listed for me? 20 systems, the at-large on one end, pure single-member A. No, I do not. 21 districts on the other? What about mixed districts Q. Your last summary talks about a single-member 22 where you have one or two at-large seats and the 23 district plan, and I want to ask, if you could, tell me 23 remainder are single-member districts? Tell me about 24 the positive aspects of at-large systems for school 24 the positive aspects of that sort of a system.

25 districts?

5 (Pages 17-20)

```
1 that literature exists, and I'm -- I'm quite happy to --
                                                               1 forms of representation increase -- increase or have no
 2 to review it. But I, at this point, have not formed an
                                                               2 effect on the election of minority candidates, and that
 3 opinion about mixed systems. And there -- there are
                                                               3 literature is -- I think the core of it is at the top of
 4 many of them. Our own City of Houston city council has
                                                               4 Page 11, if you can see that.
 5 a mixed plan and has since 1981.
                                                                      Q. Yes. And I'm going to --
                But I have not -- I want to be clear
                                                                      A. And it's --
 7 here -- have not reviewed that literature, nor have
                                                                      Q. I'm going to come back to those later because
8 I formed an opinion about the superiority, inferiority,
                                                               8 we're just going to work -- just so you know, I'm just
 9 or -- or any of the issues I addressed here. I only
                                                               9 going to work through your report sequentially --
10 looked at single-member versus at-large.
       Q. You mentioned the City of Houston in your
                                                              11
                                                                      Q. -- because it's easier for simple minds like
12 answer, and so that -- that leads me to ask this
                                                              12 me to do it that way. And so I'm going to come back
13 question. When you are looking at elections and
                                                              13 to some of these studies that you reference on Page 11.
14 systems, is there a difference between analyzing those
                                                                              But these are primarily what you're
15 systems and elections with regard to cities versus
                                                              15 referencing, on Page 3, when you say "the scholarly
16 school districts?
                                                              16 literature"?
       A. I am certain there is, but, again, except for
                                                              17
                                                                     A. Yes.
18 the literature I reviewed, I -- my first focus was
                                                              18
                                                                      Q. Perfect.
19 school districts, but there's no question that there
                                                                              I want to turn quickly to Page 2 of your
20 have been -- and my literature review includes both
                                                              20 report, and you state, towards the bottom, that "I have
21 school districts and some studies on general purpose
                                                              21 also designed voting districts for municipal governments
22 municipal governments.
                                                              22 and school districts in Texas. I am currently designing
                But I am not ready to opine whether or not
                                                              23 election districts for Lancaster ISD, Goose Creek ISD,
24 single-member district forms of representation and
                                                              24 and the City of Baytown."
25 at-large vary by form of government, school district
                                                                              My question is are there any other school
                                                                                                                        20
                                                         18
 1 and -- and general purpose governments. It was not the
                                                               1 districts for which you are designing election
 2 scope of my work, which is not to say that I -- I
                                                               2 districts --
 3 couldn't have done that. I just did not. I was not
                                                                     A. That I --
 4 asked to do that.
                                                                      Q. -- or that you have designed election districts
       Q. I want to turn back to your report, and we're
                                                               5 for?
 6 on Page 3, the fourth bullet point, the Summary of
                                                               6
                                                                      A. Have or -- or currently? I'm sorry.
 7 Opinions, and you discuss the scholarly literature.
                                                                      Q. It's a two-part question.
 8 You make reference to scholarly literature to conclude
9 certain items.
                                                                      Q. So both of them.
10
                What scholarly literature are you referring
                                                                      A. I -- I have done it for HISD; Houston Community
11 to specifically there?
                                                              11 College; Lone Star; San Jacinto. Give me a second.
       A. In the first bullet?
                                                              12 I've just got to -- oh, Lyman County ISD, South Dakota.
       Q. Or just when you say "There is strong" --
                                                              13 And, to the best of my memory, that's it, and then the
14
       A. Or all three?
                                                              14 ones I'm currently doing.
       Q. -- "evidence in the scholarly literature,"
                                                                      Q. And does that entail actually drawing a map,
16 are there certain studies that you're specifically
                                                              16 like you've done in your report in our case?
17 referencing, and can you tell me what that -- what those
                                                                      A. Let me clarify, yes, I first have -- I didn't
                                                              18 draw a map here. I -- I worked with the map that I was
                                                              19 given. Needless to say, I was working with the precinct
       A. Sure. Yeah, I mean, the best way to answer
20 that would be to go to page -- help me here -- Page 10.
                                                              20 or enrollment districts that are currently being used
21 And I tried to organize my review of the literature
                                                              21 for electing trustees.
22 around, I believe, at least three. Did minority
                                                                               But to -- to your first, yes, I have drawn
23 representation in at-large districts increase -- did
                                                              23 maps. I think -- I use the word "design." I think
24 at-large -- excuse me.
                                                              24 your -- your language is maybe better. I -- I
                Did at-large versus single-member district
                                                              25 constructed or drew maps, yes.
```

6 (Pages 21-24)

1 expert report. Q. Is that normally the type of work that Q. The next section of your -- of Page 3 is 2 demographers do? 3 "Materials Reviewed." And you say that you consulted A. I don't know. I -- and that's a fair question. 4 the scholarly, peer-reviewed research on, and then you 4 The -- the short answer is I have worked with 5 demographers. I'm -- I'm not altogether certain what 5 list some bullet points. 6 exactly they do, except enrollment districts. But the Is that the same research that you and 7 I were talking about just a moment ago, or is this a 7 short answer is I'm not certain, but I would -- I would 8 different --8 assume so, yes. Q. And as opposed to analyzing election data, what A. Yes, it is. 10 are -- what do you believe your qualifications are to 10 Q. -- body of research? 11 11 design the district themselves, or draw the maps, as A. I'm sorry. I couldn't hear. 12 we've been talking here? Q. Or is this a different body of research? A. Well, I'm -- I am familiar with, as -- as I'm A. No, no. This is what we had previously --14 previously discussed and I elaborate on later in the 14 often advised by attorneys I work for or the school 15 report. 15 districts whose attorneys I work for, regarding rules Q. And then the last paragraph on Page 3 says that 16 and requirements, voting rights, single-member 17 districts, one person one vote. 17 you have "relied on election results provided by the 18 Spring Branch ISD for trustee elections, data from the I've trained and taken courses on 19 geographical information systems. I have trained and 19 U.S. Bureau of the Census, and Harris County's Election 20 Administrator Office for my analysis of racially 20 actually served on the U.S. Bureau of Census advisory 21 board; so I'm pretty familiar with the data that is 21 polarized voting in SBISD's trustee elections." 22 provided there. Do you see that reference? 23 23 A. Yes. And I believe I am knowledgeable about 24 (Exhibit 2 identified.) 24 elections and election procedures, such that I can work 25 with the voting data provided by, in this case, county Q. If you would, as the next exhibit, look at the 22 1 and election administrators. ${\bf 1}$ email from Barry to me, and it has attachments to it. Q. Of the -- of the election districts that you've A. I -- I don't recall seeing that. I apologize. 3 designed for schools before, have they all been pure 3 I'm sure I got it. I just don't have it at --4 single-member districts, or have any of them been a Q. This is an email that Barry sent me on this 5 mixed system of partially at-large and partially 5 Monday, and it says "Attached are materials provided by 6 single-member? 6 Dr. Stein." A. Only the City of Houston has been a mixed A. Yes. Yes, I do remember. If you give me a 8 system. All others have been single-member districts. 8 second, I'll get it up. I -- I qualify that. I'm sorry. My Okay. And which exhibit is it? 10 memory. I did -- and this is a while back -- Fort Bend Q. We can mark this now as Exhibit Number 2. 11 11 ISD. And I did their redistricting when they moved from A. Okay. Barry Abrams' email. I got it. I see 12 an at-large to a single-member. And if you're going to 12 it. 13 ask me the year, I'm going to vaguely recall it as in Q. Okay. My first question is are these the 14 the early 1980s. 14 materials that you're referring to on the bottom of Q. Going to page -- back to Page 3 now of your 15 Page 3 of your report? A. Yes. 16 report, your final opinion is that "Spring Branch should 17 adopt a single-member district plan for the election of Q. Are there any other materials that you're 18 the district's seven trustees." 18 referring to, in your report on Page 3, that are not 19 $^{
m 19}$ contained in the email that Barry sent me? Did I take your earlier testimony to say 20 that you did not analyze whether or not Spring Branch A. Yes. If you go to the bottom -- and I 21 should adopt a mixed system? 21 apologize. I omitted this in my report. There is A. No, I did not. 22 another source of information, and I have to get it. 23 Q. Okay. So you don't have an opinion whether Yeah, on Page 9. Footnote 2. 24 Q. I'm with you. 24 that would be good, bad, or indifferent at this point? A. I used data from the NCES, the National --A. Not based on the work I have done in -- in my

7 (Pages 25-28)

1 well, you're going to ask me what it stands for; it's 1 it. 2 the National Center for Education Statistics -- to A. This was used for -- I'm parsing everything 3 acquire information on the racial makeup of schools and 3 together here. Give me just one second so I can tell 4 enrollment districts in Spring Branch. And that was 5 used in my racial and ethnic segregation analysis on These are the data that T -- T used for ${\bf 6}$ Page 9. That was not included on the bottom of Page 3. 6 table number -- get this back up. Yeah, these are the Q. Okay. Would you be able to print those 7 data I used for Table Number 1 on Page 8. 8 materials and send them to Barry so he could forward Q. And if I am reading this correctly, the first 9 them to me? 9 three columns of the spreadsheet all came from the 2020 A. Yes, yeah. Q. Okay. Thank you. 11 A. Yes. A. There's one -- yeah. 12 Q. And then do all the remaining columns come from Q. If you need to finish an answer, please feel 13 the American Community Survey? 14 A. That is correct. A. There was one other piece of information I 15 Q. And that's the 2015 to 2019 --16 acquired from Mr. Golando on the American Community 16 A. That is --17 Survey, on Page Number 8, and that's Table Number 1. 17 Q. -- five-year ACS? 18 And I will -- well, that data's there. The source is A. I believe all of the -- oh, I'm sorry. Yes, 19 the American Community Survey, and I should have put a 19 the first three columns are the census, and the 20 footnote in that for the website as well, which I will 20 remaining columns are from the American Community Census 21 do. 21 (sic) from 2015 to 2019. 22 Q. All right. And I had a couple of questions Q. Is there a reason why you use the census for 23 about that, but I'll get to those later. 23 the first three columns and not for the remaining Other than the -- what you've now told me 24 columns? 25 about, the additional information, is there any other A. Citizen voting age population is not data 26 1 information that you're referring to, in Page 4 of your 1 collected in the census; whereas, citizen -- let me get 2 report, that's not included in the materials that Barry 2 that -- citizen voting age population is collected only 3 sent me the other day? 3 in the American Community Survey. It is not collected A. I'm just double-checking to make certain, if 4 in the census. 5 you don't mind. Q. And is there a 2020 American Community Survey, 6 or was the 2015 to 2019 the most recent data set that Q. Sure. A. I want to make certain I didn't -- no. No, 7 you were able to use? 8 there is no other information. A. It was the most recent that was available to us 9 at the time. Q. Okay. Turning to Exhibit 2, which is Barry's 10 email and the attachments, I just want to ask you what 10 Q. Is there a 2020 ACS? 11 the attachments are and what they -- what they mean and A. I believe there is, but I am not certain it's 12 how you use them. 12 been released. I -- I just don't know. I honestly A. Okay. Q. And so the first one, the first attachment, I O. And then under your column that says 15 think, is labeled "Copy of SBISD Demonstrative Data," 15 "Hispanic CVAP" -- and CVAP stands for citizen voting 16 and it appears to be a chart. And it looks like this 16 age population; is that correct? 17 chart may have formed part of the basis of your chart on 18 Page 8 of your report. Q. And in your proposed District 1, you have a 19 A. Help me here. 19 52.8 percent Hispanic CVAP; is that correct? 20 20 A. That's correct. Q. Sure. A. Are we talking about the -- the one that's Q. And so that puts it over the 50 percent 22 "Special Tabulation of Citizen Voting Age Population"? 22 Gingles 1 threshold for an acceptable illustrative Q. It's the one that --23 23 district, correct? 24 A. Yeah, I got it. That's it. 24 A. That is correct.

25

Q. Next to the 52.8, you have a plus/minus of 5.9.

25

Q. Yeah. So tell me what this is and how you used

8 (Pages 29-32)

1 Is that plus/minus of 5.9 the margin of error? 1 an additional overflow on some years, but this is A. That is correct. 2 basically the data that informed my racial polarization Q. So does that mean that the Hispanic CVAP in 3 analysis. 4 District 1, within the margin of error that you've Q. And where did you -- what information did you 5 listed, could be below 50 percent? 5 use to come up with your chart? A. Yes. A. The data that I -- I'm not certain -- repeat Q. How did you -- do you know how the ACS gathered 7 that again, please. 8 or computed the Hispanic CVAP in Spring Branch? Q. Sure. What data did you use to input into your A. They would have conducted surveys. 9 Excel spreadsheet to create this? Q. Is it -- is it self-identification or is it A. I asked, as I said I think on Page 3, for 10 11 the Spring Branch ISD to provide me vote totals by 11 surname based or do vou know? A. No, the -- my understanding -- and on this, 12 candidate, by year, by polling location. 13 I will have to -- I'd have to do more work. It is Q. And, ultimately, did the information in this 14 self-identified. 14 spreadsheet, that we're looking at -- we're talking Q. I'm sorry. I didn't --15 about, become part of Figures 1, 2, 3, and 4 on A. Self-identified. It's the result of a survey 16 Pages 5 through 7 of your report? 17 question asked. A. I'm going to switch back and forth. I just Q. Did you use the chart that we're referring to 18 want to make certain I'm -- yes, these are the ones for 19 Figures 1 through 4, yes. 19 for any other purpose than using it for Table 1 in your 20 report? Q. Okay. Perfect. 20 A. No. T did not. 21 The next attachment to Barry's email. that Q. And other than the 2020 census and the 2015 to 22 I'd like to ask you about, is entitled "Election Results 23 2019 ACS survey, did you rely on any other information 23 2015 to 2021." 24 A. Okay. Yes. 24 or data to create this spreadsheet? A. This one here on -- that we're looking --Q. And like the prior one, this came on an Excel 30 1 spreadsheet, and I'd like to ask you, what did you use 1 A. -- I'm looking at? No, I did not. 2 this for, and what data did you use to input to create Q. Okay. The next attachment to Barry's email 4 that I would like to ask you about is the one entitled A. This is virtually the same data, coming from 5 "Data SBISD Election." And when you -- when Barry sent 5 the same source, as we saw in the spreadsheet above. 6 it to me, it was on an Excel spreadsheet, and then, when 6 It is a different display of the data, but it's the same 7 I printed it off, it gives me a harder-to-read version. 7 data and the same source, and it was used to inform my A. Yes, sir. 8 analysis on racial polarized voting, as reported in -- I 9 forgot the section -- but Figures 1 through 4. 9 Q. But it was sent in Excel form. Can you tell me what this is and what you 10 O. Perfect. 11 used this for, in terms of your opinion? The next attachment to Barry's email is 12 entitled "Polarization Spreadsheet." A. I'll start with the second question. It was A. Oh, yes, I'm with you. 13 used to do my voter polarization racial -- racial 14 polarization. It's a result of trustee elections by Q. Okay. And like the -- like the earlier 15 year, by precinct or voting tabulation area, by 15 questions, I just want to ask, you know, how did you --16 candidate, along with the racial or ethnic makeup of 16 what is this, how did you use it, and what did you use 17 each voting place, in terms of what was the racial 17 to create it? 18 makeup of the men and women that cast ballots in that A. All right. Let me just -- give me one second. 19 election, in that year, in that polling place, or in 19 So if you go to my report and you go to 20 this case precinct. 20 Page -- help me here -- 9, this data, which came from Trustee -- maybe this will help. When I 21 the National Center on Educational Statistics --22 refer to precincts and polling places and enrollment 22 Education -- National Center for Education Statistics. 23 districts, they're all the same. There are seven 23 and this informed Section 6 of my report on "Racial and 24 trustees, and, although they are at-large, these 24 ethnic segregation in Spring Branch ISD." 25 elections are held in these seven. There was actually 25 Q. Where did you get the information to put into

9 (Pages 33-36)

Q. Okay. Turning to the next page of your report,

1 your spreadsheet? A. No, I do not. Q. You analyze, I believe, ten trustee elections, A. From the National Center for Education 3 Statistics. The website is in Footnote Number 2 on 3 in Spring Branch ISD, to form the basis of your opinion? 4 Page 9. A. That's correct. Q. And that's the one we talked about earlier? Q. You did not analyze any exogenous elections, A. Yes. 6 did you? Q. And then the final attachment to Barry's A. Say that again. Any? 8 email was entitled "Spring Branch Segregation ISD Data Q. You did not analyze any exogenous elections, 9 Analysis 2." 9 did you? Non-Spring Branch elections? A. Let me go back. Yes. A. No, no. Q. And if you could tell me what this is, how you 11 Q. Why did you -- can you tell me why you did not 12 used it, and what you used to create it? A. These are the calculations that I made. Let 13 A. It wasn't what was asked of me. 14 me go back to the report. And on Page 9, again, in Q. The final paragraph, on Page 4 of your report, 15 Section 6, this formula for calculating racial 15 states that "The dominate races and ethnicities among 16 segregation or dispersion, those are the computed 16 Spring Branch ISD voters are White, the majority, and 17 scores for each of the schools and each of the 17 Hispanic, the minority." 18 enrollment districts in Spring Branch ISD. Do you know the current percentages of Q. All right. I think I'm ready to move on to 19 those two groups based on the 2020 census? A. I think that's in -- as in total population or 20 Page 4 of your report. 21 total voting age population? A. Give me one second. Okay. Q. And this is the section entitled "Racially Q. Well, that's a great question. I'm just trying 23 Polarized Voting in Spring Branch ISD." And your first 23 to refer it to the statement in your report. So what 24 paragraph states that you "used a definition of racially 24 were you referring to in your report when you say that 25 polarized voting as outlined in Thornburg versus Gingles 25 the dominate races among the voters are White, the 36 1 majority, and Hispanic, the minority? 1 case to assess whether this condition existed in the 2 Spring Branch ISD trustee elections between 2017 and A. I think I was referring here to Section 6 of 3 2021." 3 my report, racial and ethnic segregation. And if I 4 remember correctly, for example, Spring Branch is A. 2015 and --Q. Okay. You anticipated my question. 5 comprised of 26.7 percent White students and 59 percent A. That's a typo, for which I do apologize. 6 Hispanic students. Q. Okay. Because I --Q. Right. But now the percentages of students A. It should be 2015. 8 does not necessarily correspond to the percentages of Q. I was going to ask you why you chose 2017, but 9 voters, does it? 10 you've --10 A. That's correct. 11 11 Q. Because most students don't vote? Q. -- now answered that. A. Well, yes, most students will have parents, A. It's a -- it's a typographical error. 13 maybe all students, and we will assume that, but not Q. Okay. So why did you choose -- why didn't you 14 necessarily, the -- the race and ethnicity. So the only 15 go earlier than 2015? 15 other source of information I have would have been the A. I'm sorry. I couldn't hear that. 16 census data and citizen voting age population that are Q. Sure. Why didn't you do any analysis earlier 17 reported in the exhibit that I --Q. Would it also be on the -- your Table 1 on A. I -- and to -- the honest answer is I -- my 19 Page 8 of your report? You have a chart. 20 recollection was I couldn't get data before 2015, and 20 A. Yes, that -- that would be the makeup of 21 I -- this was the data that was available to me. But 21 the districts, but I'd go back to the census and the 22 I -- that is my recollection. 22 ACS reports. And then from that, I would have O. Do you know who the minority-preferred 23 calculated the percent of population, Spring Branch ISD, 24 candidates were in the Spring Branch elections prior 24 White, Hispanic. I cannot give you that number now.

25 to 2015?

10 (Pages 37-40)

1 Page 5, at the very beginning of Page 5, you state, 1 Does that help? 2 "To measure the degree to which there is racially O. It does. 3 polarized voting in Spring Branch ISD trustee elections, A. Okav. 4 I regressed the proportion of persons," et cetera, Q. And I believe you say in your report, on 5 Page 5, that Hispanic surname candidates were identified My question is what does "I regressed" 6 as the minority-preferred candidate, for purposes of 7 mean? 7 your figures, correct? A. It -- Footnote Number 1. It's a kind of A. Yes. 9 "ordinary least squares." Basically, it's a plot. Q. Did you take into consideration a White 10 Simply, along the -- what you'd call the Y -- well, 10 candidate with a Hispanic surname? For example, 11 the horizontal axis --11 Chris Gonzalez, who is the current board president of Q. And so you'll understand, I'm a liberal arts 12 the Spring Branch trustees. How did you -- how did you 13 major, and so a lot of what you're going to say might be 13 compensate for somebody with a surname of Gonzalez that 14 very simple to you, but is very --14 is not Hispanic? A. I understand. A. I don't know that I -- I apologize. Did you Q. -- detailed to me. So help -- help the 16 say how did I compensate? 17 uninitiated. 17 A. What I'm asking is simply this, given an 18 A. I'm not certain I'm understanding. 19 election -- let me -- let me re- -- I'm going to go back Q. Well, I guess --20 up so you can see in the report. A. I know she's not -- I know Ms. Gonzalez has a It's a proportion of vote cast for the 21 Hispanic surname, and that's all I -- as my report 22 White candidate, the minority-preferred candidate, in 22 indicated, if the surname of the candidate was Hispanic, 23 this case Hispanic surname candidate, and the proportion 23 I assumed that they were the preferred candidate of the 24 of vote Hispanic and White in each precinct in each 24 Hispanic voter. I did not determine whether voters were 25 election for each candidate. 25 aware of Ms. Gonzalez's preferred ethnic identification. 38 40 So all I'm saying -- asking is, if I have a Q. So for purposes of your table -- figures in 2 Precinct 1, and it's 70 percent Hispanic, how many votes 2 your report, you considered Chris Gonzalez to be a 3 did the Hispanic-preferred candidate get in that 3 preferred Hispanic candidate? 4 precinct in that election. A. That is correct. Q. Okay. You kind of did this already, but I'mMy expectation is that there's a 6 relationship between the race or racial makeup of a 6 going to ask you, if you did it, to do it again. And 7 voting precinct and their support for minority -- excuse 7 that is to walk me through Figures 1, 2, 3, and 4, your 8 charts, and -- and just tell me what they mean, how to $8\ \mbox{me}$ -- for minority-preferred candidates. And if that 9 relationship is significant and steep -- steep tells me 9 read them. A. So, as I said before, what I'm trying to 10 how many units of racial makeup in the precinct are 11 related to how many unit changes in vote for the 11 ascertain is if the racial makeup of a voting precinct 12 is related to the support for the preferred -- excuse 12 minority-preferred candidate or the majority-White 13 me -- preferred minority candidate or the preferred 13 candidate. 14 majority racial group. 14 So that, if a line is steep and moving from And what we do on the horizontal axis is 15 left to right, like in Figure 1, that tells me that, as 16 the racial makeup of a precinct increases, that is 16 simply tell you what the racial makeup of each voting 17 precinct was in each of the elections conducted between 17 White, the share of vote in that precinct for the White 18 2015 and 2017. That goes from, oh, you know, around 18 candidate goes up proportionately. 19 The slope is simply the change in the 19 50 percent to 100 percent for Whites; obviously 20 different for Hispanics. 20 racial makeup of a precinct to the change in the share I then identify the White or minority, in 21 of vote for the White or minority-preferred candidate. 22 this case Hispanic surname, candidate, and simply ask, 22 A slope of 1 would mean that, for every percentage 23 if the racial makeup of the precinct changes, how does 23 increase in the racial makeup of the voting precinct, 24 the vote share for candidates, by race, change. 24 there is an equal 1 percent increase in the share of A slope. A slope is simply the change 25 vote for the White candidate; the same for the minority.

11 (Pages 41-44)

```
1 we've changed -- same elections; same candidates; same
 1 in the number of -- or share of vote for a candidate
 2 matched with a change in the proportion of vote, White
                                                               2 precincts. Only difference is I'm now asking what
 3 or Hispanic.
                                                               3 about Hispanic voters in precincts and their support
                                                               4 for White candidates, and the slope here is .99 -- 996.
                A positive line, a line -- and positive
                                                               5 It's negative. It means this is about total racial
 5 means it goes from the lower left-hand to the upper
 6 right-hand corner. It tells me that there is a racially
                                                               6 polarization. Hispanic candidates will vote at
                                                               7 increasingly lower rates for White candidates, almost
7 polarized pattern of voting. As there are more White or
                                                               8 1 to 1.
 8 Hispanic people in the precinct voting, there will be
 9 more votes for the White or Hispanic candidate.
                                                                      Q. Did you mean Hispanic voters? I think you said
                The strength of that relationship, the
                                                              10 Hispanic candidates.
                                                              11
11 significance of the racial polarized, is measured by
                                                                      A. Did I say -- voters, yes. I apologize.
12 that slope. And as I said before, if there's a
                                                                               Hispanic voters in precincts will vote
13 1 percent change in the percent of people in the voting
                                                              13 against, or not for, the White candidate at almost a
14 precinct White and a 1 percent change in the proportion
                                                              14 perfect 1-to-1 relationship. 1 percent increase in the
                                                              15 Hispanic share of vote in that precinct results in a
15 of vote for the White candidate, that slope is 1. And
                                                              16 1 percent lower share of vote for the White candidate.
16 that is a positive, I would say. That's as extreme as
                                                                               I can -- you want me to -- I know you're
17 you can get for racial polarized voting.
18
                                                              18 busy -- I didn't want to -- you were looking for
                If it's negative, it slopes -- for
19 instance, in Figure 2, it slopes downward. That tells
                                                              19 something, and I didn't want to --
20 me that, as the percent of Hispanic voters in the
                                                                      Q. No.
21 precinct increases, the share of vote those voters give
                                                              21
                                                                     A. -- interrupt you.
22 to the White candidate goes down. And, again, as -- if
                                                              22
                                                                      Q. Continue, please.
                                                              23
                                                                      A. Figure 3 is the percent of White vote in each
23 it approaches 1, that's extreme racial polarized voting.
                                                              24 precinct regressed or displayed with the percent of
                So if you start with Number 1, you find
25 that White voters tend to vote for White candidates.
                                                              25 Hispanic candidate vote. So in a precinct with White
                                                          42
1 If you -- in my table figure, you can see the .856, in
                                                               1 voters, as the share of the precinct's White vote goes
                                                               2 up, the share of -- excuse me -- the share of vote cast
2 the left-hand side of the figure.
       Q. Let's see. Yes, I do.
                                                               3 for the Hispanic candidate goes down, and there the
                                                               4 slope actually exceeds 1.
       A. There's the slope, correlation, and P.
                So .856 is -- gets very close to 1. There
                                                                               So what does that mean? It means that, for
 6 is a statistical test of significance. Is that slope
                                                               6 every 1 percent increase in the share of votes that are
                                                               7 White, there is a 1.06 percent drop in the share of vote
 7 significant or could it have happened just by chance?
                                                               8 casts for Hispanic candidates. So that level of extreme
 8 And the answer is 99 -- .01 -- can you see that, .014?
                                                               9 polarization exceeds. It actually goes over the
       Q. Yes, sir.
       A. That would mean that 99 times out of 100, if
                                                              10 1 percent change. There's even more drop in support
11 you saw this distribution, you would conclude it was
                                                              11 for Hispanic candidates as the precinct's share of
12 nonrandom. It would mean that only 1 time out of 99
                                                              12 White voters goes up. And that, of course, is negative.
13 would you say that that relationship was random, as if
                                                                              Finally, Figure 4 is the percent of
14 you were just throwing darts at a dartboard. And it's a
                                                              14 Hispanic vote in each precinct and the share of vote for
15 very --
                                                              15 each Hispanic candidate in that precinct. There, the
                                                              16 slope exceeds 1. That means that, with a 1 percent
16
       Q. And this Figure 1 --
       A. I'm sorry.
                                                              17 increase in the percent of vote Hispanic in each
       Q. In this Figure 1 that we're talking about, are
                                                              18 precinct, there is 1.13, or 13 percent, more votes for
19 White candidates voting for -- White voters voting for
                                                              19 the Hispanic candidate in that precinct.
20 White candidates?
                                                                               This suggests to me that White and Hispanic
21
       A. Yes.
                                                              21 voters are highly polarized when voting for candidates
                                                              22 who are White and Hispanic.
       Q. Is that what Figure 1 is showing?
       A. Yes. So there we find highly polarized -- it's
                                                              23
                                                                     Q. Would you --
                                                                               THE WITNESS: Can I indulge and just ask if
24 not 1, but it -- you know, and .85 is -- is pretty high.
```

25 I can get a glass of water?

25

If you go down to Figure 2, here all that

12 (Pages 45-48)

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The regression technique is the same, but
                MR. CRAWFORD: In fact, we've been going
                                                               2 I had only a universe of, I think -- I think about 73
 2 close to an hour. Would you like to take a short break?
                THE WITNESS: If it's -- if it's all right.
                                                               3 election contest precincts. That's not a lot of cases.
                                                               4 It's sufficient to make statistical inferences and --
 4 I don't --
                                                               5 and parametric statistics around 30. In fact, exactly
                MR. CRAWFORD: It is perfectly fine. Why
 6 don't we take -- I've got 10:28. Do you want to take
                                                               6 30 is about what you need.
                                                                               And so I had, obviously, twice -- a little
 7 five minutes?
                                                               8 more than twice 30 observations. So the inference --
                THE WITNESS: That'll be fine. Thank you.
                 (Break from 10:28 to 10:34.)
                                                               9 ecological inference wasn't necessary in estimating
10
                                                               10 polarization. The data, how can I say, speak for
       Q. (BY MR. CRAWFORD) Before we left off, we were
                                                              11 itself.
11 talking about your analysis of racial polarization and
12 the four figures in your report.
                                                                      Q. You did not run an EI analysis as a
13
                Would you agree that your method of
                                                              13 confirmation or double-check?
                                                              14
                                                                      A. No. T did not.
14 assessing racially polarized voting in Spring Branch ISD
15 elections combines all ten of the contests that you
                                                                      Q. Did you perform any racially polarized election
                                                              16 analysis using CVAP or Spanish surname registered
16 examined into one overall analysis, rather than an
17 election-by-election polarization analysis?
                                                              17 voters, as typically done in these cases?
18
                                                                      A. Yes. I mean, we wanted to know the racial
       A. Yes, I -- I think, yes.
       Q. Can we determine, from your reported analysis,
                                                              19 or ethnic composition of the electric, and we used an
                                                              20 imputation that is -- we -- I think I discussed it on --
20 which specific election contests were polarized and to
21 what degree?
                                                              21 help me here. I'll find it. It's on page -- give me a
       A. Yes.
                                                              22 second.
23
                                                              23
                                                                               On Page 4 we identify the racial and
       Q. How would we do that?
                                                              24 ethnic membership of each registered voter in each
       A. So take a look at Figure 4.
       O. Okav.
                                                              25 election year, of course, in each election precinct,
                                                          46
                                                                                                                        48
        A. If you look at the points -- those are the
                                                               1 using Imai and Khana's. This is the EI approach, I
 2 percentages -- you can see that some are closer and some
                                                               2 believe, you're reporting -- or referring to. And,
 3 are further from that line that I've drawn. When you do
                                                               3 as I said, it describes how we do it.
 4 a regression, when you regress, when you look at the
                                                                               We use the Center for Disease Control's
 5 slopes, some cases will be closer to the fitted line and
                                                               <sup>5</sup> racial and ethnic surname list, along with the census
 6 some will be further away.
                                                               6 data for the residential location of each voter, to
                 So what we do here is we try to look at
                                                               7 impute their race or ethnicity. And that, I think, is
 8 the totality, all of the elections, and say that,
                                                               8 recorded in the email that Barry sent you. And then we
 9 over the period 2015 to 2021, we find that there is
                                                               9 use that estimate to say this person is Black, Hispanic,
10 a statistically significant and strong -- there's a
                                                              10 Asian, White.
11 difference between significant and strong --
                                                                      Q. Did you use a Bayesian Improved Surname
12 relationship. There are some elections where this
                                                              12 Geocoding analysis?
13 relationship may not be as strong as others.
                                                                      A. That -- that is how we -- I believe, on page --
        Q. Did you perform any of the typical King's
                                                              14 help me here. I think you're referring to -- oh, give
15 ecological inference analysis on individual election
                                                              15 me another second. The Barreto, Cohen, Collingwood, and
16 contests?
                                                              16 Dunn paper, that's referred to as "A Novel Method for
        A. I use the -- the ecological inference mostly
                                                              17 Showing Racially Polarized Voting: Bayesian Improved
18 for imputing --
                                                              18 Surname Geocoding."
19
                                                              19
        Q. That's normally known as EI, correct?
                                                                      Q. And is that typical analysis of these types of
        A. Yes, yes.
                                                              20 cases?
        Q. Okay.
                                                                      A. I'd be careful to use the word "typical." I
        A. I use the ecological inference to impute the
                                                              22 consider it the state of the art or the best practice.
23 racial and ethnic membership of each voter. But in this
                                                              23 It is not typical, and it has not been widely used in
24 analysis, there's some debate about whether or not this
                                                              24 the past. I -- and I cannot comment about -- I don't
```

25 know how widely used it is now, but, in the literature

25 is, in fact, ecological inference.

13 (Pages 49-52)

```
1 I have read, I consider this the best practice.
                                                                               And then, as Exhibit 4. I'd like to mark
       Q. And why do you consider it best practice?
                                                               2 just a bigger copy of the map from your report. This
       A. Well, it's a long explanation, and I apologize.
                                                               3 was a page from a document filed by the Plaintiff in the
 4 Having taught -- having taught this in my survey
                                                               4 case, and it just simply replicates your map and your
 5 research class, I believe it does two things. It
                                                               5 Table Number 1. I did this because I might want to draw
 6 leverages a lot of information. It leverages the
                                                               6 on it, and it's kind of bigger. But it should be the
 7 surname of a person. It leverages where they live,
                                                               7 same table and map that's in your report.
 8 and that -- the research about how people choose where
                                                                                  (Exhibit 4 identified.)
 9 they live tells you a lot about who they are, Democrats,
                                                                      Q. And so the first question I have for you is
10 Republicans, African Americans, and Hispanics.
                                                               10 Exhibit 3, which is the colored map, is this the map
11
                So I am -- how can I say? -- convinced,
                                                              ^{11} of the middle school attendance zones that you're
12 not so much by the Barreto article, but by the
                                                               12 referring to that you based your table -- your
                                                              13 demonstrative map off of?
13 Imai and Khana paper. And I've taken some time to
14 talk to Imai and Khana about this for other research
                                                                      A. Yes.
15 that I have conducted, and I'm convinced that it is the
                                                                      Q. And I believe you've already told me this, and
16 most exact means of measuring racial without, of course,
                                                              16 so just confirm that you have. But you got -- where did
17 surveying the voter themselves.
                                                              17 you get the 52.8 percent Hispanic citizen voting age
18
       Q. Anything else you'd like to add to --
                                                              18 population for your District 1?
19
       A. No.
                                                                      A. Mr. Golando had shared that with me from the
       Q. -- that answer?
                                                              20 ACS.
20
                Okay. Great. Then let's now turn to your
                                                              21
                                                                      Q. Okay. And we've already talked about that in
22 proposed illustrative district, and that is on Page 8 of
                                                              22 fair detail?
23 your report.
                                                              23
                                                                      A. (Nods head.)
       A. Yeah.
                                                              24
                                                                      Q. Any other information that went into providing
       Q. And Page 8 has a table, Table 1, and then,
                                                              25 that number of 52.8 percent?
                                                                                                                         52
                                                          50
1 below it, a demonstrative map of a single-member
                                                               1
                                                                      A. No.
2 district.
                                                                      Q. Okay. Also looking at Table 1 -- and I'll just
                My first question is what did you do to
                                                               3 use District 1 as the example -- you have a voting age
                                                               4 population of 18,782, and a citizen voting age
4 create the map?
       A. I didn't really do very much. I started with
                                                               5 population of 9.180.
 6 the seven districts that the Spring Branch ISD has
                                                                               Can you explain the difference in those two
 7 identified as polling places. Those were, of course,
                                                               7 numbers, the reason why?
\boldsymbol{8} the basis of my voter polarization analysis.
                                                                      A. Well, I suspect it will be noncitizens.
                And other than obtaining, from Mr. Golando.
                                                                      Q. Is that because many Hispanic residents are
10 the data from the American Community Survey, I
                                                              10 noncitizens?
11 identified at least one, District Number 1, where there
                                                                     A. I don't know if many are, but I -- I would say
12 was a sufficient -- in this case, majority -- of
                                                              12 that it is due to the fact that residents -- some
13 Hispanic voting age to create a district.
                                                              13 residents, and a large number in that district, are not
14
                   (Exhibit 3 identified.)
                                                              14 citizens. And it would infer that, if it's heavily
       Q. Okay. I would like you to look at what I'm
                                                              15 Hispanic, that, yes, some portion of them, probably as
16 going to ask Dana to mark as Exhibit 3, which is the
                                                              16 many as half.
17 color map, that hopefully was forwarded to you. And
                                                                      Q. Would it also be due to, in general, Hispanic
18 it's --
                                                              18 residents tend to be younger, and, therefore, not
19
                                                              19 vote -- not of voting age?
     A. Hold on; hold on. Okay. Not the one in the
20 report?
                                                                      A. Those are reasonable hypotheses, but I -- I
21
       Q. No, no. But that's going to be the next one.
                                                              21 just don't -- I mean, to answer that definitively, I
22
                It's this one right here.
                                                              22 can't tell you. I have not looked at that data.
23
       A. Yes, yes. I've got it. Okay.
                                                                      Q. And in your proposed District 1, you have a
       Q. Great. I'd like to mark that as Exhibit 3, the
                                                              24 52.8 percent Hispanic citizen voting population. Do you
25 colored map.
                                                              25 know would that have been possible prior to the 2020
```

14 (Pages 53-56)

```
1 census?
                                                                     Q. But you have not attempted to draw any other
       A. I don't know. I have not looked at that data.
                                                              2 map, other than the one that is on Page 8 of your
       Q. In determining the numbers and percentages
                                                              3 report --
4 of your Hispanic population for your map, did you use
                                                                    A. No.
                                                                     Q. -- right?
5 Hispanic surname data?
       A. This data, which comes from the ACS, would have
                                                                     A. No, I have not.
7 used self-reported Hispanic identification. That's my
                                                                     Q. Did you -- did you take into account or respect
8 understanding of the ACS and data I've used in the past.
                                                              8 census blocks when you were creating your illustrative
                                                              9 map?
       Q. If you -- if you could tell me, what is
10 "raking"?
                                                              10
                                                                     A. No, I did not.
                                                             11
       A. (No response.)
                                                                     Q. Did race predominate in your creation of
       Q. Raking, r-a-k-i-n-g.
                                                             12 District 1 of your illustrative map? Was that the
       A. In what -- I'm sorry. I don't know. Raking
                                                             13 predominate factor you considered, race?
14 leaves? Raking data?
                                                                     A. That's a hard question. I -- I don't want
       Q. No. In terms of constructing illustrative
                                                             15 to be evasive. Let me -- let me say exactly what I
16 districts, are you familiar with the process known as
                                                             17
                                                                              Because I was doing racial polarized voting
       A. I am not. I'm not certain. I'm -- I'm
                                                             18 based on seven districts, it seemed logical to use those
19 familiar with it in very different survey research
                                                             19 seven districts as the initial illustrative or
20 contexts.
                                                             20 demonstrative. So the only consideration I gave was
       Q. And another phrase it may go by -- maybe this
                                                             21 what are the current district boundaries.
22 will sound more familiar -- is "iterative proportional
                                                                              I'll give you an example. I did not look
23 fitting." Are you familiar with that?
                                                             23 for one person, one vote. I don't know if these are --
       A. I -- I have heard the term, but I couldn't give
                                                             24 if they meet that one -- the Baker -- Baker Carr, like
25 you a definitive def- -- no.
                                                              25 every district has to be within a top-to-bottom
                                                         54
                                                                                                                       56
1
       Q. Okay.
                                                              1 10 percent.
       A. I wouldn't feel comfortable.
                                                                              I simply said, if you were to create a
       Q. And you did not use that method or analysis in
                                                              3 district map from the current voting locations, what
4 creating your illustrative district?
                                                              4 would it look like; could there actually have been a
                                                              5 majority/minority? I did not attempt to do any other
       Q. Do you understand the term "traditional
                                                              6 drawings or use other criteria.
                                                                     Q. Okay. So I would like you to have in front
7 districting principles"?
                                                              8 of you, if you're able to, both the colored map of the
       A. Not -- I mean, the -- it makes perfect sense
                                                              9 district boundaries and either the map from your report
9 to me, but I don't know what you're referring -- I mean,
                                                              10 or Exhibit 4, whichever is easier for you to refer to.
10 I don't know what those conditions would be.
                                                                     A. I've got my -- the map from my report.
       Q. Okay. In creating your map, the demonstrative
                                                                     Q. Okay. And I note that, although your
12 district, did you respect neighborhoods and
                                                             13 illustrative map is similar to the attendance districts
13 subdivisions? Did you try to keep those intact?
                                                             14 in Exhibit 3, they're -- they're not exactly the same.
       A. No. I took the districts that currently exist
                                                              15 Would you agree with that?
15 for the purposes of conducting elections for trustee
                                                                     A. I -- I have to check that. I had thought they
16 elections. I have to say that was the sole criteria;
                                                             17 were exactly the same. They may deviate a little, but
17 that is, the districts -- enrollment districts
                                                             18 I -- I --
18 corresponded to the voting places.
                And as I said -- I think we call this a
                                                                    Q. All right.
                                                                     A. The answer is I don't know.
                                                             20
20 demonstrative or illustrative district map -- there
                                                                     Q. Okay. So, for example, I'm going to draw on
21 might be other -- I think I said in my report there
22 are -- it doesn't preclude other district plans, other
                                                             22 my copy of the map -- and hopefully you're able to see
                                                             23 this. This is why in person is so much more fun than
23 configurations that could be done following other
                                                             24 Zoom.
24 practices I would have used in drawing district
                                                                              I have drawn a circle between District 1
25 boundaries -- have used in drawing district boundaries.
```

15 (Pages 57-60)

1 and District 7 that has, like, a little jut in it. Are 2 you able to see what I'm talking about?

- 3 A. Yes, I do. I do.
- 4 Q. Okay. And that does not appear on the district
- 5 boundary. That's a change from the normal attendance
- 6 boundary to your proposed map.
- 7 And so my question is can you explain to me
- 8 why you have that little jut in your proposed district?
- 9 A. I can't. Those were maps that were shared
- 10 with -- with me by Mr. Golando, and they may have
- 11 reflected a slight change in the makeup, the deviation
- 12 from the current enrollment districts. I had not
- 13 noticed that before.
- Q. Okay. And then similarly, between your
- 15 Districts 5 and 6, there's a little jut, you know,
- 16 a little kind of carve-out that is not as part of the
- 17 regular attendance boundaries. Can you explain why?
- 18 A. Again, I assume that that was a change that
- $19\ \mathrm{Mr.}$ Golando had made to adjust boundaries for the
- 20 demonstrative plan.
- Q. Okay. And can you explain why your proposed
- 22 District 6 is the only proposed district that is both
- 23 north and south of I-10?
- A. No, I can't, other than it seemed to follow the
- 25 boundaries of enrollment districts.
 - Q. Did you do anything to check to confirm that
- 2 your proposed District 1 will, in fact, have the effect
- 3 of allowing Hispanic voters to elect the trustee of
- 4 their choice?
- 5 A. Other than the majority voting age population,
- 6 that is of course Hispanic, no.
- 7 Q. Did you run any simulated elections?
- 8 A. No, I did not.
- 9 Q. I'd like to turn now to Page 10 of your report.
- 10 A. Page?
- 11 Q. 10, 1-0.
- 12 A. Okay.
- 13 Q. And I guess I need to at least -- I need to
- 14 start with Page 9 because I think it's the setup for the
- 15 question. And on the bottom of Page 9, you identify
- 16 certain percentages indicating whether you have low,
- 17 middle, or high levels of segregation.
- 18 And so, based on those numbers, on Page 10
- 19 you say "There is strong evidence that the racial and
- 20 ethnic makeup of Spring Branch schools and enrollment
- 21 districts is highly segregated." And then you have a
- 22 chart.
- 23 Do you see that?
- 24 A. Yes.
- Q. So my question is are you saying, with this

- 1 chart, that the Spring Forest Middle School is highly
- 2 segregated?
- A. Spring Forest?
- 4 Q. The Spring Forest Middle School that has
- 5 .42 percent White and .36 percent Hispanic.
- 6 A. Well, again, the -- what you -- maybe I should
- $7\ \mbox{go}$ back and make clear what I mean by disparity or
- 8 highly segregated.
- 9 So if you have a district that currently
- 10 has -- go up to Page 9 -- Page 9, middle paragraph,
- 11 "The dissimilarity index captures how proportional
- 12 Hispanics and Whites are distributed across the
- 13 district."
 - .4 So if Spring Branch ISD is composed of
- 15 26.7 percent White and 59.2 Hispanic, that's the
- 16 baseline from which you would expect to see the
- 17 distribution deviate. And what I've noticed is that
- 18 there's a significant deviation from that proportional
- 19 distribution. There's some districts that -- and
- 20 schools, some enrollment districts that are more and
- 21 some less.
- 22 What constitutes the degree of
- 23 dissimilarity is a judgment that I drew from the
- 24 literature, and anything around .3 to .6 is moderate,
- 25 anything above .6, in the dissimilarity indexes are,

58

- ${\bf 1}$ in some cases at the school level, .69 and .59. So yes.
- 2 To your question, is Spring Forest
- 3 significantly dissimilar or -- or segregated, I'd say
- 4 so. Those indexes are -- are pretty high and not,
- 5 again, due to what I will call chance, but to some force
- 6 that's moving those students into a highly dissimilar
- 7 racial and ethnic makeup.
- 8 Q. And would your answer be the same as to the
- 9 Spring Branch Middle School? It's the one right below
- 10 Spring Forest.
- 11 A. Yeah, I -- I would say those numbers are almost
- 12 identical. And when you compare them to the -- you
- 13 know, they're -- the word -- the term I would use would
- 14 be "moderate dissimilarity."
- Q. What about Memorial Middle School? What would
- 16 you consider Memorial Middle School?
- 17 A. I would consider that from moderate to
- 18 beginning to get high-moderate.
- Q. On Page 11 of your report -- we've talked about
- 20 this briefly already, and I told you I'd come back to
- 21 it, and I'd like to now. About some of the reports and
- 22 research, the scholarly literature that you looked at
- 23 and relied on, and you list some of it here on the top 24 of Page 11. Are you with me?
- 25 A. Yes.

-

60

16 (Pages 61-64)

```
Q. The first question I have for you, after you
                                                               1
                                                                               MR. CRAWFORD: Oh. Exhibit 5.
 2 cite a number of the studies, you say, "several studies
                                                                               THE REPORTER: Okav.
 3 have reported null findings," n-u-l-l. What do you mean
                                                                               MR. CRAWFORD: Thank you.
 4 by "null findings"?
                                                               4
                                                                                  (Exhibit 5 identified.)
       A. There was no significant effect between the
                                                               5
                                                                      Q. Dr. Stein, do you have that?
 6 form of representation and the proportion of minority
                                                                     A. Let me get it up.
 7 representatives on these representative bodies. No
 8 relationship. No positive; no negative; no significant
                                                                      A. Give me one second. I had it up, and I'm
 9 relationship. Null means you reject the null hypothesis
                                                               9 trying to -- what's the word here? And you're referring
10 that there is -- you accept the null hypothesis that
                                                              10 to the Meier and Rutherford?
11 there's no -- no relationship here.
                                                              11
                                                                      Q. Meier and Rutherford.
       Q. And then in Footnote 4, you note that,
                                                                      A. Well. I can't find it. Give me a second.
13 "The authors qualify their null findings by noting
                                                              13 I know I had it a second ago, and I apologize.
14 that Hispanics may be able to profit from at-large
                                                              14
                                                                      Q. Oh, no problem. You're doing a great job.
15 districting when they are a majority of the population."
                                                              15
                                                                      A. I got it. I got it.
16
                Do you agree with that statement?
                                                                      Q. Okay. I'd like to ask you a couple of
17
       A. Do I agree that -- that they wrote that, or
                                                              17 questions about this article. The first page -- first
18 that I agree with --
                                                              18 of all, this is the article that you're referring to in
       Q. I guess, first, do you agree that they wrote
                                                              19 your report?
20 it, and, second, do you agree with their conclusion?
       A. Yes, it's their conclusion. I think that I
                                                                      Q. Okay. The first page of the report, which is
22 would say that that is probably true, in the literature,
                                                              22 Page 265, towards the bottom of the left-hand column of
23 yes. Yes, I would agree with the statement.
                                                              23 the page, states that "African Americans actually do
       Q. Based on the --
                                                              24 better in at-large systems. Although this minority
       A. Excuse me.
                                                              25 group has been disadvantaged by at-large districts
                                                          62
1
       Q. No, no problem.
                                                               1 30 years ago, they have since overcome these hurdles and
                Based on the population trends in
                                                               2 now appear to be better off under this type of electoral
 3 Spring Branch from, say, you know, the 2010 census to
                                                               3 structure in the case of school board elections."
 4 the 2020 census, the Hispanic population is growing in
                                                                               Are you aware of this finding by Meier and
 5 Spring Branch, correct?
                                                               5 Rutherford?
       A. I -- I don't want to be evasive, but I don't
                                                                     A. Yes.
 7 know that. I mean, if you said that to me -- I have
                                                                     Q. Do you agree or disagree with it?
 8 not looked at the growth in Hispanic population in
                                                                      A. I think that that is -- I think that the --
 9 Spring Branch. Honestly, I just don't know.
                                                               9 that their explanation, which comes in later, I agree
       Q. So you don't -- you don't know, one way or the
                                                              10 with. This is not the full explanation for what's going
11 other, whether Hispanics will be the majority population
12 in Spring Branch in the near future?
                                                                      Q. I'd like to turn to the next page of the
       A. I would -- I could not make that judgment at
                                                              13 article, Page 266, the -- the second full paragraph
14 this time.
                                                              14 on the left-hand column, beginning with the word
       {\bf Q.} You reference a study by Meier and Rutherford
                                                              15 "Other studies."
16 and a study by Welch and Karnig for the proposition that
                                                                     A. Got it.
                                                              16
17 "Two studies have reported a negative relationship
                                                                      Q. Okay. This says that "Other studies question
18 between single-member district elections and minority
                                                              18 the detrimental impact of at-large elections on
19 representation."
                                                              19 descriptive representation, either disputing the
20
                Do you see that reference?
                                                              20 negative impact on minorities in general or suggesting
21
       A. Yes.
                                                              21 that the impact has disappeared over time," citing
                MR. CRAWFORD: I would like Dana to mark as
                                                              22 MacManus and but see Davidson.
23 Exhibit 4 a copy of the Meier and Rutherford article.
                                                                               "Other studies find that no impact of
                THE REPORTER: I believe we did the
                                                              24 electoral structure include Fraga and Elis's 2009
25 black-and-white map as Exhibit 4.
                                                              25 examination of Latino representation in school districts
```

17 (Pages 65-68)

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1 representation producing the effect he sees.
1 in California."
                                                                      Q. On the same page on the right-hand side of
       A. Yes. sir.
                                                               3 the paper, the first full paragraph talks about, "The
       Q. Are you aware of those studies?
                                                               4 literature has also ignored one fundamental element of
                                                               5 U.S. elections, the role of partisanship."
       O. Do you dispute the findings of those studies?
       A. No, no. I -- I'm aware of them. I don't --
                                                                              And I won't read the whole paragraph for
                                                              7 you, but I'd ask you to read it and just ask, do you
7 I think they -- my characterization in my report -- if
                                                               8 agree with the statements that he's making in that
8 I could go to that --
       O. Please do.
                                                               9 paragraph?
10
       A. -- for a second -- is this -- hold on.
                                                                     A. Yes, yes.
11
                                                                     Q. What about Spring Branch ISD elections? Did
                On Page 11 of my report --
                                                              12 you look into the role of partisanship in the outcome of
       O. Yes. sir.
       A. -- second paragraph, so I -- the Meier and
                                                              13 SBISD elections?
                                                                     A. No, I did not.
14 Rutherford, Welch and Karnig, and I'd -- I'd even
                                                                     Q. Further down the page, same page 266, it's
15 include the Cole paper, the MacManus paper, which show
                                                              16 the last full paragraph, and it begins with, "Although
16 no result.
                There are two factors that explain what
                                                              17 framed as a way."
                                                              18
                                                                     A. Yes.
18 I would call the lack of unanimity in this field, right.
19 I mean, the -- if you look at the totality of research,
                                                                      Q. The second sentence of that paragraph reads,
20 although it -- the balance is single-member districts
                                                              20 "The low turnout of nonpartisan school board elections
                                                              21 held in the spring has meant an electorate dominated by
21 do tend to promote minority representation, there are
22 a good number of papers that show not.
                                                              22 those with a direct interest in schools, primarily
                                                              23 parents and teachers."
                So I offer the explanation that there are
                                                              24
24 two explanations, I think, in the literature. I think
                                                                              Do you agree with that statement?
25 even Ken points this out, Ken and Ms. Rutherford. One
                                                                     A. Yes. I mean, I think that -- yes. I don't
                                                         66
                                                                                                                       68
1 is that the nature of electoral reform on minority
                                                              1 think there's any -- yes, I do agree with this
2 representation is contingent. And the other, to be very
                                                              2 statement.
3 simple and blunt, is that the quality of the research
                                                                     Q. And is that -- is that a good or a bad thing,
4 and the research designs of some older research is
                                                               4 that --
5 simply not sufficient to answer the question at hand.
                                                                     A. I don't have a judgment about --
                I think that some of the cross-sectional
                                                                     Q. -- that the electorate is dominated by teachers
                                                              7 and parents?
7 work -- and I would include in this Ken's and
8 Ms. Rutherford's paper. It is a 2014 paper. Others
                                                                     A. I -- I don't have an opinion on whether that's
9 that I've -- Abott and Magazinnik use much more
                                                              9 good or bad.
10 powerful, much more improved and state of the art.
                                                              10
                                                                     Q. Fair enough.
                And I want to be clear here. We -- we did
                                                                              Do you know whether -- and I'm not talking
12 not have these types of tools in 2000 or 2014, and we
                                                              12 about school board elections. But, in general, whether
13 surely didn't have these tools for causal inference in
                                                              13 the population of Spring Branch ISD has a democratic or
14 the previous century.
                                                              14 a republican voting majority?
                So my conclusion about these papers is
                                                                     A. I don't know. I do not know.
16 that -- that they're -- are they wrong? They're simply
                                                                      Q. And, finally, my last question about this
17 not using the most sophisticated scientific methods for
                                                              17 article is on Page 275, left-hand column, the last
18 answering the question at hand. I'm not suggesting
                                                              18 full paragraph, beginning "One open question." And
19 that, at the time that they were written, they were
                                                              19 the very last sentence of that paragraph states,
20 wrong. I'm simply suggesting we've advanced, and that
                                                              20 "Election systems establish the rules of the game and
21 advancement has given us a better and more reliable and
                                                              21 incentives; they do not necessarily determine winners."
22 valid answer to the question about representation.
                                                             22
                                                                              Do you agree with that statement?
                So I didn't write the articles, but I do
                                                              23
                                                                     A. You're just a few steps ahead of me.
24 think that Ken would agree with -- as he says, it's
                                                             24
                                                                     Q. Oh, I'm sorry.
25 contingent on a condition of larger size minority
                                                             25
                                                                     A. Page 170?
```

18 (Pages 69-72)

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1 "showed that, among the major types of electoral
       o. 275.
                                                              2 systems, Hispanic representation is slightly more
       A. 275. Right- or left-hand column?
                                                              3 equitable in district than pure at-large elections,
       O. Left-hand column.
                                                              4 but most equitable in mixed systems."
       A. Okay. And the --
                                                                             And she cites a Taebel article, from 1978,
       Q. The last full paragraph, beginning "One open
6 question."
                                                              6 that, "like MacManus, found that Hispanics were best
                                                              7 represented in mixed systems."
       A. Got it.
       Q. And it's the very last sentence. And rather
                                                                             And she cites Welch and Karnig, 1978, for
9 than reread it again, I'll just ask you if you agree
                                                              9 finding "that structure makes hardly any difference for
                                                             10 Hispanic representation."
10 with that statement?
       A. I'd agree with it.
                                                                             So my first question to you is are you
12
                   (Exhibit 6 identified.)
                                                             12 familiar with these three studies?
       Q. I'd like to mark, as Exhibit 6, the next
                                                                     A. Yes. I mean, I -- I can't tell you I've read
14 article that I sent you in advance from Susan Welch.
                                                             14 the papers recently, but -- and I did not read them for
       A. Yes. Give me one second.
                                                             15 this report. But I am -- I know of the -- I know about
16
       Q. No problem.
                                                             16 that work, yes.
       A. I've got to close one. I'm just running out
                                                                     Q. And do you know -- do you agree or disagree
18 of -- okay. I'm ready.
                                                             18 with their conclusions, as stated in Dr. Welch's
       Q. Okay. Are you familiar with Susan Welch?
                                                             19 article?
       A. Yes, very, very familiar with her.
                                                                     A. I don't disagree with their findings. I mean,
       Q. You kind of smiled and -- and like you have a
                                                             21 whether they're generalizable to the 21st century, to
22 good relationship?
                                                             22 the contemporary situation in Spring Branch, I have not
       A. I -- I've known her, I suspect, longer than --
                                                             23 made a conclusion.
24 I met Susan Welch when I started graduate school. I
                                                                     Q. Okay. And just so we're clear, when we're
25 won't tell you when that was, but a long -- I've known
                                                             25 talking "mixed system," we're talking about a system
                                                         70
                                                              1 that has one or more at-large positions and one or more
1 her a long time, yes.
       Q. And she -- is she a professor at the University
                                                              2 sinale-member positions, correct?
                                                                     A. That's correct, yes.
3 of Nebraska?
                                                                     Q. Okay. So if we were to accept the results
       A. No. She -- she's a retired emeritus from the
5 University -- Pennsylvania State. She was at Nebraska
                                                              5 of these studies as being accurate, would a mixed
                                                              6 Spring Branch ISD system be more equitable to Hispanics
6 when she wrote that paper.
                                                              7 than a pure single-member system?
      Q. Okay. And the article that I have given you
                                                                              MR. ABRAMS: Objection to the form of the
8 is called "The Impact of At-Large Elections on the
                                                              9 question.
9 Representation of Blacks and Hispanics." And this
                                                                     A. You know, I just -- you know, it's a fair
10 apparently is from the Journal of Politics from 1990.
                                                             11 question; one that should be studied. I did not.
                And the report that you cite in your
                                                             12 I can't form an opinion for the Spring Branch ISD.
12 report, on Page 11, is Welch and Karnig 1978. Do you
                                                                     Q. Fair enough.
13 know if this Exhibit 6 is an update of that 1978 study?
       A. It -- it's a -- yeah, it's -- the word "update"
                                                             14
                                                                              Turning to Page 1065 of Dr. Welch's
                                                             15 article.
15 wouldn't -- I'd just say it's based on the same data
16 and -- and a further analysis, yes.
                                                                   A. 260?
                                                                     Q. 1065.
                                                             17
      Q. And I'd like to ask you just a few questions
                                                                    A. Oh, 1065?
                                                             18
18 about some of the statements that Dr. Welch made in her
                                                             19
                                                                    O. Yes. sir.
19 article. The first page I'd like to ask you questions
                                                             20
                                                                     A. Yes, I'm there.
20 about is on Page 1053 of the article.
                                                             21
                                                                     O. And I think she is simply reiterating what
    A. Okay. I'm on that page.
                                                             22 she stated on the page that we were just looking at.
       Q. Okay. And the top of the -- the top paragraph
                                                             23 Under the heading "Hispanic Representation," the first
23 says, "The findings concerning election structures and
                                                             24 full paragraph, last sentence, she states, "Hispanics
24 Hispanic representation are, however, less clear cut."
                                                             25 appear to do somewhat better in cities with both
                And then she cites the MacManus 1978 study,
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19 (Pages 73-76)

(Exhibit 7 identified.) 1 1 at-large and district elections than in either of Q. And, Dr. Stein, I'd ask if you could get that 2 the pure types." 3 in front of you? Do you see that reference? A. Let me get that up. Give me one second. I've A. Yes. 5 just got -- I've got so many -- okay. I'm just about --O. And your answer, on whether you agree or 6 disagree, would be the same as we just discussed before? 6 I had to close the Welch and -- I think it's -- no. 7 I've got -- I'm sorry. I keep opening up the Meier and A. Yes, I'm -- it's not a question I -- you know, 8 Rutherford one. I'll get it. Give me just a second. 8 it's a -- it's a fair question, but it is not one that 9 I looked at for this -- the purposes of this report and 9 Wait a minute. Where is it? Oh, you added that. That 10 was the one that -- in the second --11 Q. Yes, sir. Yes, sir, that was the one. Q. Turning to Page 1067 of her report. 12 A. 1067, got it. A. Yeah, I've got all these attachments, and that Q. Yes. The paragraph that begins "Another 13 was in Barry's second attachment. There it is. I got 14 it. 14 complicating factor." Q. Great. And I'm going to -- I'm going to ask A. Got it. 16 you a question about this article, and I'm going to Q. Okay. About a little bit more than halfway 17 down the paragraph, she states, "In Texas, on the other 17 refer it to something you stated on Page 9 of your 18 report. 18 hand, Hispanic representation is quite high (.83) in 19 mixed systems." 19 20 Q. So it's going to be kind of a compare and Do you know where she got that from, those 21 statistics? 21 contrast. And so I would like you to look at the A. No, I do not. 22 Abott article and go to Page 726. 23 A. Got it. Q. You're not in a position to either agree or Q. And there is a highlighted paragraph on that 24 disagree with those statistics? A. No, I -- you know, I want to be very clear 25 page on the right-hand column. And rather than read it, 74 76 1 here. I think Susan's a fine scholar, and I -- these 1 I would just ask you to read it to yourself, and let me 2 know after you've had a chance to do that. 2 are peer-reviewed, but I have no idea where that data Q. Okay. And you've had a chance to read what Q. And on a similar question on Page 1072 of her 5 Abott said in that paragraph? 5 report. A. (Nods head.) A. Yes. I'm there. Q. The very last paragraph, second sentence, she Q. On Page 9 of your report, the next -- the last 8 states, "Overall, district elections do not promote more 8 full paragraph on that page, you cite, Researchers, 9 equitable representation for Hispanics." 9 Abott and our other author from the 2020 study. Is this And then, skipping a sentence, she says, 10 the report that you're referring to in your report? 11 "We found that small Hispanic populations are best A. Let me just quickly read it. 12 represented in mixed elections." 12 Q. Sure. Do you have any comment on those findings? 13 A. Yes. A. No. I mean, again, I'm not questioning her Q. Okay. And you say that Abott -- and some other 15 findings. I'm simply saying that I have no basis for 15 researchers, but we're talking about the Abott report --16 making a judgment. 16 "identify dissimilarity index scores below .3 as Q. Page 11 of your report also discusses a report 17 indicating low levels of segregation, .3 to .6 as 18 from Abott -- and I'm going to butcher his coauthor's 18 moderate levels of segregation, and .6 and above as 19 last name. It starts with an M. 19 high levels of segregation. SBISD's dissimilarity A. Magazinnik. 20 index score at the school level is .694 and .596 at Q. Magazinnik? 21 the enrollment zone level." 22 Did I read that correctly? A. We both will make the same mistake. Q. Okay. I would ask Dana to mark, as Exhibit 7, 23 A. Yes. 24 a copy of the Abott and the name we can't pronounce 24 Q. Okay. So with the current Spanish surname 25 report. 25 registered voter proportion for Spring Branch below

20 (Pages 77-80)

1 20 percent and the Spanish surname registered voter 1 then you continue with the sentence. 2 proportion among actual Spring Branch ISD 2021 board And my question, on the front end, is what 3 election voters below 6 percent, would you agree that 3 is a subnational government? 4 Spring Branch ISD is in the category that the authors A. It -- it's cities and counties and, of course, 5 identify as low on Latino eligible voters and high on 5 rural districts and special districts. 6 segregation? Q. I thought that might be what it meant, but I A. Yes. 7 wasn't positive. Q. Do you agree the conclusion in that case --A. I apologize for the jargon. 9 with the conclusion in that case, in the case of Q. And then the next paragraph on this page, you 10 Spring Branch, that "reformers ought to carefully 10 state that "The research on spending and taxing among 11 consider moving forward with conversion efforts under 11 governments with different modes of representation 12 this set of adverse conditions"? 12 presumes that the higher levels of spending governments A. I'm not certain what they meant by "carefully 13 in jurisdictions with single-member district 14 consider moving forward with conversion." What I would 14 representation is both inefficient and nonrepresentative 15 believe you would want to be careful about is drawing 15 of the preferences of the full community." 16 those districts to take into consideration the range of Do you agree with that presumption? 17 concentration of Hispanic voters. 17 A. The literature has always -- yes, I -- I think 18 I think you would not necessarily be 18 the characterization of the literature has been that 19 cautious about making the conversion. I would be 19 single and at-large differ because of this what we call 20 pork barrel spending hypothesis. I don't agree with 20 careful about how to make that conversion and be more 21 careful about drawing those districts. 21 that being true, but I think the literature has been Q. Turning to Page 12 of your report, Section 9 of 22 dominated by that working hypothesis. 23 your report deals with "The taxing and spending policies Q. And when you say "pork barrel spending," that 24 of governments with at-large and single-member district 24 would be for single-member districts, correct? 25 representation," correct? A. That is correct. ጸበ 78 A. Yes. Q. Okay. Page 14 of your report. And I note that Q. Do you -- how are Spring Branch ISD's Title I 2 your report is only 15 pages long; so we're doing great. 3 funds affected by its having an at-large system? The first full paragraph begins with A. I don't know. 4 "A great number of minority school board members," and Q. As part of Page 12 of your report, this 5 it goes to talk about two reports. "Robinson, 2016, 6 finds that a great proportion of Hispanic board members 6 section, the last paragraph, it begins with a sentence 7 that states "Empirical support for a significant and 7 leads to less support for bilingual policies, popular 8 among Hispanic voters." 8 positive relationship between spending and the electoral 9 fortunes of single-member district representatives has And you cite "Flink and Molina, from 2016, 10 been mixed, modest, and conditional." 10 as finding the level of Hispanic representation has a Do you see that? 11 positive effect on bilingual education spending only 12 12 when the proportion of bilingual population in the A. Yes. 13 district is relatively small." Q. What did you mean by that statement? A. You know, it -- it's a -- it's a big 14 My first question is do you agree with 15 literature. I should point out I contributed to it with 15 those conclusions of those studies? 16 my colleague Ken Bickers. And like a lot of things, 16 A. Yes, I think they are -- they are an accurate 17 it's just not simple. 17 result. Spending levels, mixed in that large Q. And the next paragraph talks about a study by 19 system, seem to be conditional on a whole set of 19 Leal about teachers and administrators and particularly 20 factors, not the least of which is not only the form of 20 Latino representation. 21 government but the composition and preferences of voters Do you know, in Texas, what the actual 22 in those districts. 22 percentage of the available teacher pool that is Q. Turning to Page 13 of your report, the first 23 Hispanic? 24 full paragraph, you state that "Research on the spending 24 A. I don't.

25

Q. And do you know where Spring Branch level of

25 and taxing policies of subnational governments," and

21 (Pages 81-84)

```
1 Latino representation, how that corresponds with the
                                                               1
                                                                               Were you aware of that?
 2 available pool in the state?
                                                                      A. Yes. I was aware of the Harris -- of HISD. in
       A. No, I do not.
                                                               3 particular, and I've known about Cypress-Fairbanks.
       O. All right. I just have a few follow-up
                                                               4 And I should reveal to you that I have worked for
 5 questions, not from your report. We are now finished.
                                                               5 Cypress-Fairbanks before, both on bond elections and
                Are you aware of the increase in
                                                               6 redistricting.
7 partisanship playing a role in school board elections?
                                                                      Q. And then the next two paragraphs, of the
      A. I am aware of news coverage of that, yes, and
                                                               8 press release, have statements from the Republican Party
 9 I am aware of anecdotes like our -- I mean, I've read
                                                               9 Chairman Matt Rinaldi and the Republican Vice Chair
10 accounts of that in the news, yes.
                                                              10 Cat Parks.
       Q. So I'd like Dana to mark, as Exhibit 8, our
                                                              11
                                                                               Are you aware of the statements that these
12 final exhibit, which is a Press Release from the
                                                              12 two leaders of the Republican Party of Texas have made
13 Republican Party of Texas.
                                                              13 regarding school board elections?
       A. I've seen it. Yes, I know -- I've got it right
                                                                      A. Not until I read this press release, no.
15 here.
                                                                      Q. Are you familiar with the Chris Earnest
16
                    (Exhibit 8 identified.)
                                                              16 election for the Spring Branch board?
17
       Q. First of all, before I -- before I showed this
                                                                      A. No. I'm not. I mean. other than what I've done
18 to you, were you familiar with this press release?
                                                              18 in my report. I mean, he's -- he's a data point, yes,
       A. No, no. I just read news accounts.
                                                              19 but I -- no, I don't know anything about the campaign.
20
       Q. Okay. And this is a --
                                                                      Q. Okay. So you're not aware, one way or the
       A. The press -- I don't -- I've not seen the
                                                              21 other, whether the partisanship, that was expressed
22 press release before, no.
                                                              22 by the GOP in the press release, played a role in the
       Q. Great. So this is a press release from the
                                                              23 election of Mr. Earnest?
24 Republican Party of Texas, dated December 6, 2021. And
                                                                      A. No, I am not aware of that.
25 the first paragraph of the press release reads, "As part
                                                                               MR. CRAWFORD: Dr. Stein, I think that's
1 of a growing commitment to advance conservative
                                                               1 all I have today. I really appreciate your time.
 2 principles on a local level, the Republican Party of
                                                                               THE WITNESS: Thank you so much. It was a
 3 Texas, RPT, announced Monday an initiative to play a
                                                               3 pleasure. I hope I didn't talk too fast, Ms. Taylor.
 4 greater role in nonpartisan races and ballot
                                                                               MR. CRAWFORD: You were wonderful.
 5 propositions. As part of this initiative, the RPT
                                                                               MR. ABRAMS: Plaintiff will reserve its
 6 announced the creation of a Local Government Committee
                                                               6 questions until later.
 7 composed of RPT Executive Committee members and local
                                                                               (Per the Federal Rules of Civil Procedure,
 8 GOP leaders. The committee will assist county parties
                                                                               signature was requested by the deponent
 9 in electing conservative candidates in often-overlooked
                                                               9
                                                                               or a party before the deposition was
10 school board and municipal elections."
                                                              10
                                                                               completed.)
                Were you aware that the Republican Party of
                                                              11
                                                                              (End of proceedings at 11:31.)
12 Texas was -- has this new commitment and new initiative?
                                                              12
      A. I had read about it in the newspapers, yes.
                                                              13
       Q. And the next sentence of the press release
                                                              14
15 notes that "The Texas GOP has celebrated major successes
                                                              15
16 in recent nonpartisan races."
                                                              16
                Is that a true statement, to your
                                                              17
18 knowledge?
                                                              18
       A. I -- I don't know that to be true, but I think
                                                              19
20 it -- the short answer is I don't know if it's true.
                                                              20
21 I don't know.
                                                              21
       Q. And part of what -- of the successes they list
                                                              22
23 in the press release is that "GOP-supported challengers
                                                              23
24 unseated three long-time incumbents in Cypress-Fairbanks
                                                              24
25 ISD, in Harris County."
                                                              25
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22 (Pages 85-88)

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IN THE UNITED STATES DISTRICT COURT
                                                             1
1 WITNESS NAME: ROBERT M. STEIN, Ph.D.
                                                                         FOR THE SOUTHERN DISTRICT OF TEXAS
2 DATE OF DEPOSITION: FEBRUARY 9, 2022
                                                                                  HOUSTON DIVISION
                   CHANGES AND SIGNATURE
                                                             3 VIRGINIA ELIZONDO,
                                                                                         )
4 PAGE/LINE CHANGE
                                              REASON
                                                                   Plaintiff.
                                                                                          )
                                                                                          ) Civil Action No.
                                                                                             4:21-cv-01997
                                                             6 SPRING BRANCH INDEPENDENT )
                                                              SCHOOL DISTRICT, CHRIS
                                                             7 GONZALEZ, PAM GOODSON,
                                                              KAREN PECK, JOSEF D. KLAM, )
                                                             8 MINDA CAESAR, CHRIS EARNEST,)
                                                             J. CARTER BREED, in their )
                                                             9 official capacity as members)
                                                               of the Board of Trustees of )
                                                            10 Spring Branch ISD
                                                            11
                                                                   Defendants.
                                                            13
                                                                              REPORTER'S CERTIFICATION
                                                                                   ORAL DEPOSITION
                                                                              OF ROBERT M. STEIN, Ph.D.
                                                                                 FEBRUARY 9, 2022
                                                            16
                                                            17
                                                                                 (REPORTED REMOTELY)
                                                            19
                                                                   I, Dana A. Taylor, Certified Shorthand Reporter in
                                                            20 and for the State of Texas, hereby certify to the
                                                            21 following:
                                                                  That the witness, ROBERT M. STEIN, Ph.D., was duly
                                                            23 sworn by the officer and that the transcript of the oral
                                                            24 deposition is a true record of the testimony given by
                                                            25 the witness;
                                                                                                                    88
       I, ROBERT M. STEIN, Ph.D., have read the foregoing
                                                                   That the deposition was submitted on
2 deposition and hereby affix my signature that same is
                                                             2 March 1st, 2022, to the attorney for the
                                                             3 witness for examination, signature, and return to me by
3 true and correct, except as noted above.
                                                             4 April 5th, 2022;
                                                             5 I further certify pursuant to FRCP Rule 25
                                                             6 30(f)(1) that the signature of the deponent:
                         ROBERT M. STEIN, Ph.D.
                                                             7 _{x_{-}} was requested by the deponent or a
                                                             8 party before the completion of the deposition and that
                                                             9 the signature is to be before any notary public and
                                                            10 returned within 30 days from date of receipt of the
9 STATE OF ______)
                                                            11 transcript. If returned, the attached Changes and
10 COUNTY OF ______)
                                                            12 Signature Page contains any changes and the reasons
11
       Before me, ______, on this day
                                                                      ___ was not requested by the deponent or a
13 personally appeared ROBERT M. STEIN, Ph.D. known to me
                                                            15 party before the completion of the deposition.
14 (or proved to me under oath or through _____
                                                            16 That pursuant to information given to the deposition
15 (description of identity card or other document) to be
                                                            17 officer at the time said testimony was taken, the
16 the person whose name is subscribed to the foregoing
                                                            18 following includes all parties of record and the amount
17 instrument and acknowledged to me that they executed the
                                                            19 of time used by each party at the time of the
18 same for the purposes and consideration therein
                                                            20 deposition:
19 expressed.
                                                            21 FOR THE PLAINTIFF:
20 Given under my hand and seal of office this ____
                                                            MR. BARRY ABRAMS
21 day of ______, 2022.
                                                                  BLANK ROME
22
                                                            23
                                                                717 Texas Avenue, Suite 1400
23
                                                                   Houston, Texas 77002-2727
                                                                   713-228-6606, 713-228-6630 Fax
                                                            24
                                                                   barry.abrams@blankrome.com
                         NOTARY PUBLIC IN AND FOR
                        THE STATE OF _____
                                                            25
25
                                                                  Time used: (0:00)
```

23 (Pages 89-89)

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89
 1 FOR THE PLAINTIFF:
       MR. MARTIN GOLANDO
        THE LAW OFFICE OF MARTIN GOLANDO, PLLC
        405 North Saint Mary's Street, Suite 700
 3
        San Antonio, Texas 78205-2334
        210-892-8543
       Time used: (0:00)
 6 FOR THE DEFENDANTS:
       MR. CHARLES J. CRAWFORD
       ABERNATHY, ROEDER, BOYD & HULLETT, P.C.
        1700 Redbud Boulevard, Suite 300
       McKinney, Texas 75069
       214-544-4000, 214-544-4040 Fax
        ccrawford@abernathy-law.com
10
        Time used: (1:58)
       That $690.55 is the deposition officer's charges
12 to the Defendants for preparing the original deposition
13 transcript and any copies of exhibits;
       I further certify that I am neither counsel for,
15 related to, nor employed by any of the parties or
16 attorneys in the action in which this proceeding was
17 taken, and further that I am not financially or
18 otherwise interested in the outcome of this action.
19
        Certified to by me this 1st day of March, 2022.
20
21
                     /s/ Dana Taylor_
                     DANA TAYLOR, TEXAS CSR 6048
22
                     Expiration Date: 04/30/23
                     STORMY JACKSON REPORTING
23
                     Firm Registration No. 610
                     1518 Clear Creek Drive
24
                     Allen, Texas 75002
                     214.491.0117
25
                     stormyrpr@outlook.com
```

DEPOSITION CHANGES/CORRECTIONS

WITNESS NAME: ROBERT M. STEIN, PH.D.

DATE OF DEPOSITION February 9, 2022

PAGE/LINE

CHANGE

REASON

47/14	Add the following after the first sentence:	Addition to information given in my deposition.
	"But since you asked me about that I have done so and the results are stated in my March 28, 2022 supplemental report, which I understand you have been furnished. That analysis confirms my earlier opinion about racial polarization."	

I, Robert M. Stein, have read the foregoing deposition and hereby affix my signature that it is true and correct, except as noted above.

Robert M. Stein

THE STATE OF TEXAS

Before me, on this day personally appeared Robert M. Stein, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this Offiday of ADri

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

CLAUDIA MARTINEZ hictory Public, State of Texas Comm Expires 01-15-2023 Notary ID 131855410